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MONTHLY REPORT

NUMBER 6

20 NOVEMBER 1964 - 19 DECEMBER 1964

LASER DISPLAY FEASIBILITY STUDY

Submitted by:

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Prepared by: -

Approved

Project Technical Director

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in reply refer to:

December 23, 1964

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Subject: Laser Display Feasibility Study Monthly Status Report No. 6,  
[redacted] Task Order No. 04

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#### TECHNICAL PROGRAM STATUS

Work this month has emphasized system design studies for two particular types of photo-interpretation aids which utilize the laser as a light source. These are: a scanned-laser light table, and a scanned-laser rear-screen film projector. Both monochromatic and full-color systems are being considered.

These studies to date indicate that information bandwidth requirements imposed upon the laser modulator for the light-table application may be beyond the present state of the art. The projection viewer, on the other hand, appears thus far completely feasible. Use of a helium-neon laser and an argon laser in such a device would permit black and white as well as full color display.

Much of the effort during this reporting period has been concerned with the type of image enhancement that might be available in a laser display device. A concept for a system to provide contrast control (similar to that provided in LogEtronics printing) is being analyzed. The conceptual design includes a "zoom" feature to permit continuously variable magnification of any selected region on the film being inspected. Comparison of the LogEtron method with mask techniques indicates that both accomplish essentially the same enhancements through different principles. Since the laser method is effected through the scanning of a beam made up of three spectrally pure colors, the possibility also exists for generating a display which is essentially black and white, in which the sizes of objects are indicated by various colors.

The plan for the next reporting period is to pursue the projection viewer concept from the analytical standpoint. After the required system parameters have been quantitatively defined, the results of earlier studies of modulation and scanning techniques can be used in selecting the best methods for implementing a device.

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ADMINISTRATIVE STATUS

The program is progressing on schedule; no slippage is anticipated at the present time. The percentage of the total estimated engineering dollars for the Contract Task Order expended as of 12 December is 38 percent.